



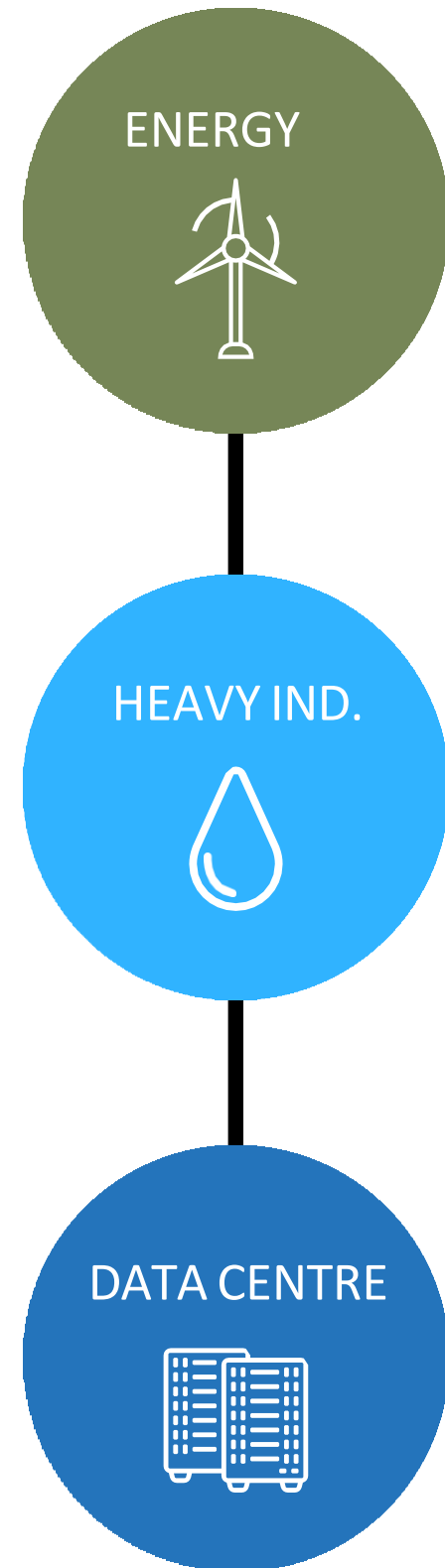
# Hydrogen Integration

## Enabling Hydrogen Growth at Scale

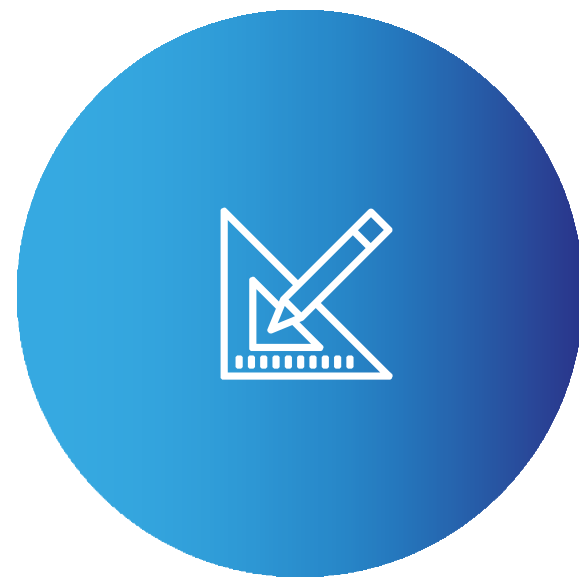
Emmet Lagan Technical Director

[laganenergyeng.com](http://laganenergyeng.com)

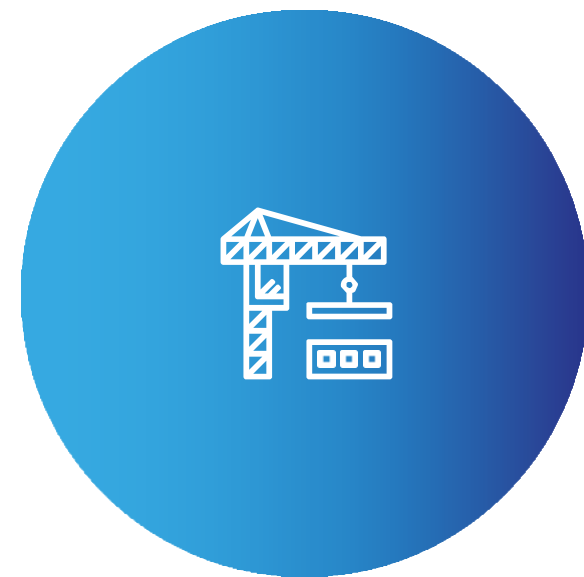
# Your Partner in Energy and Beyond



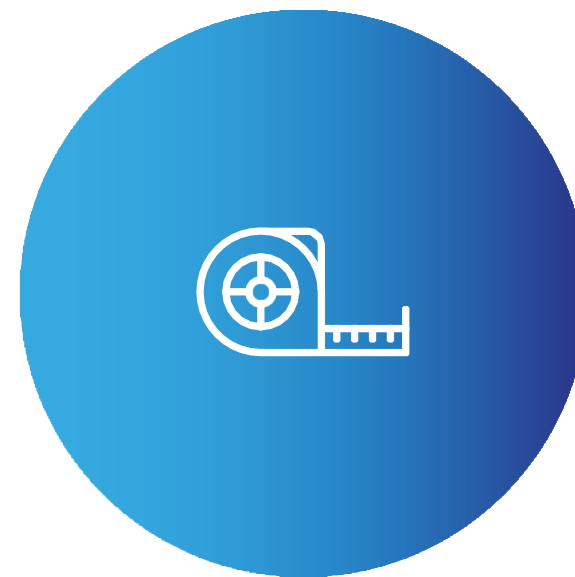
# Our Service Offering



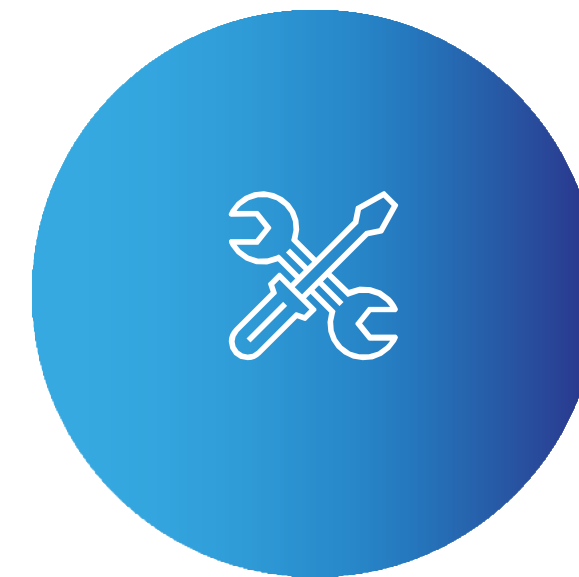
Design your  
solution



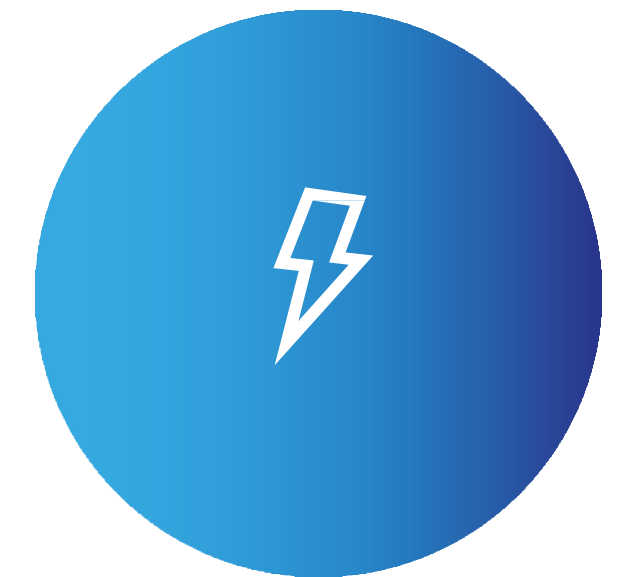
Construct  
your project



Commission  
your system

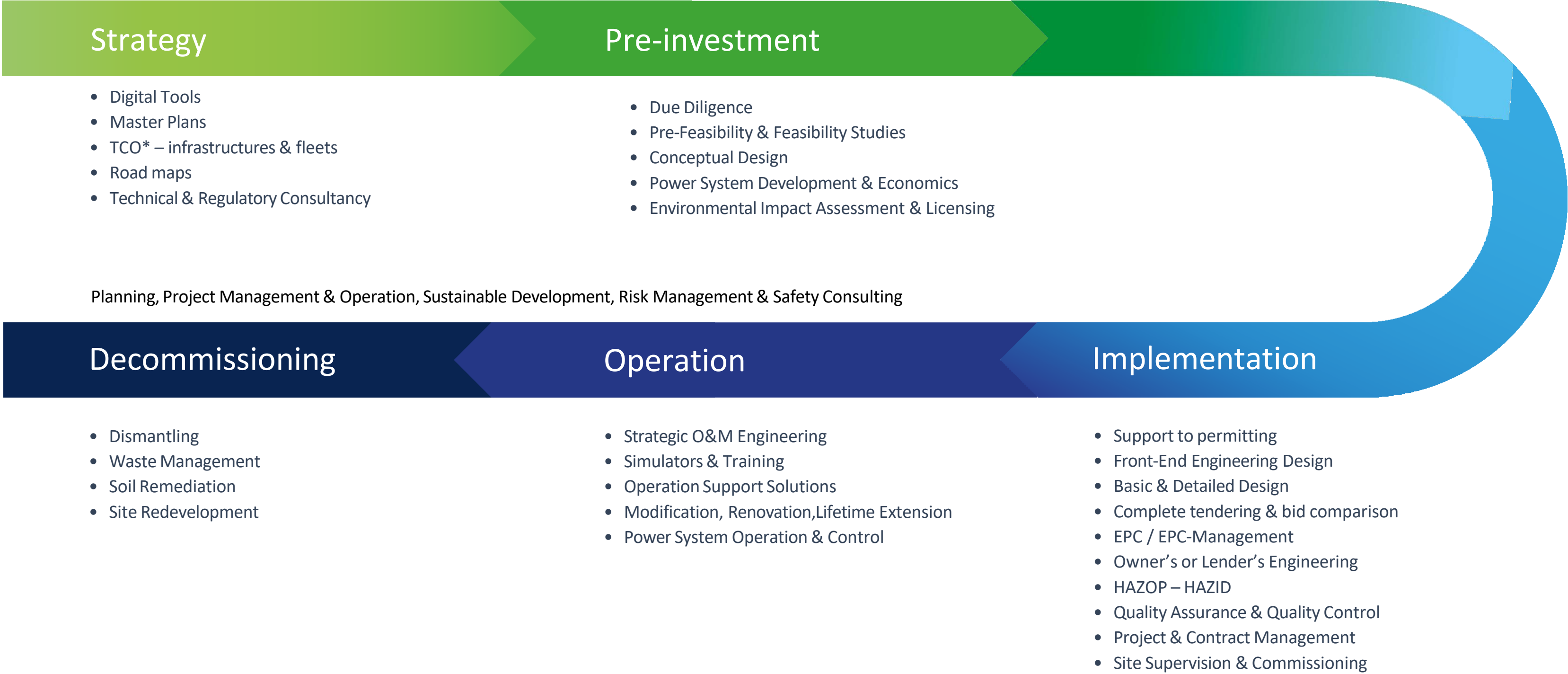


Maintain  
your assets



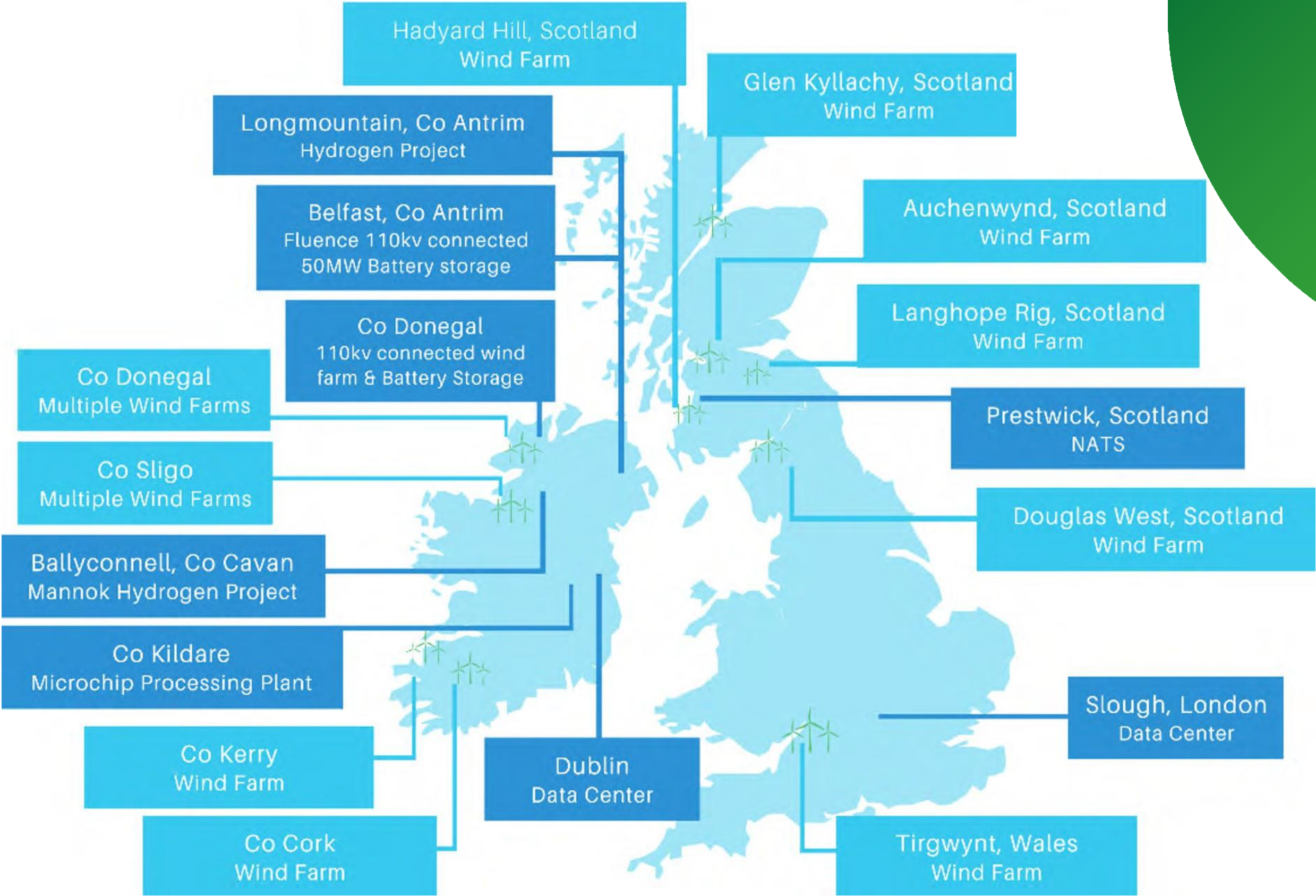
Operate  
your system

# Offering you an A-Z value proposition

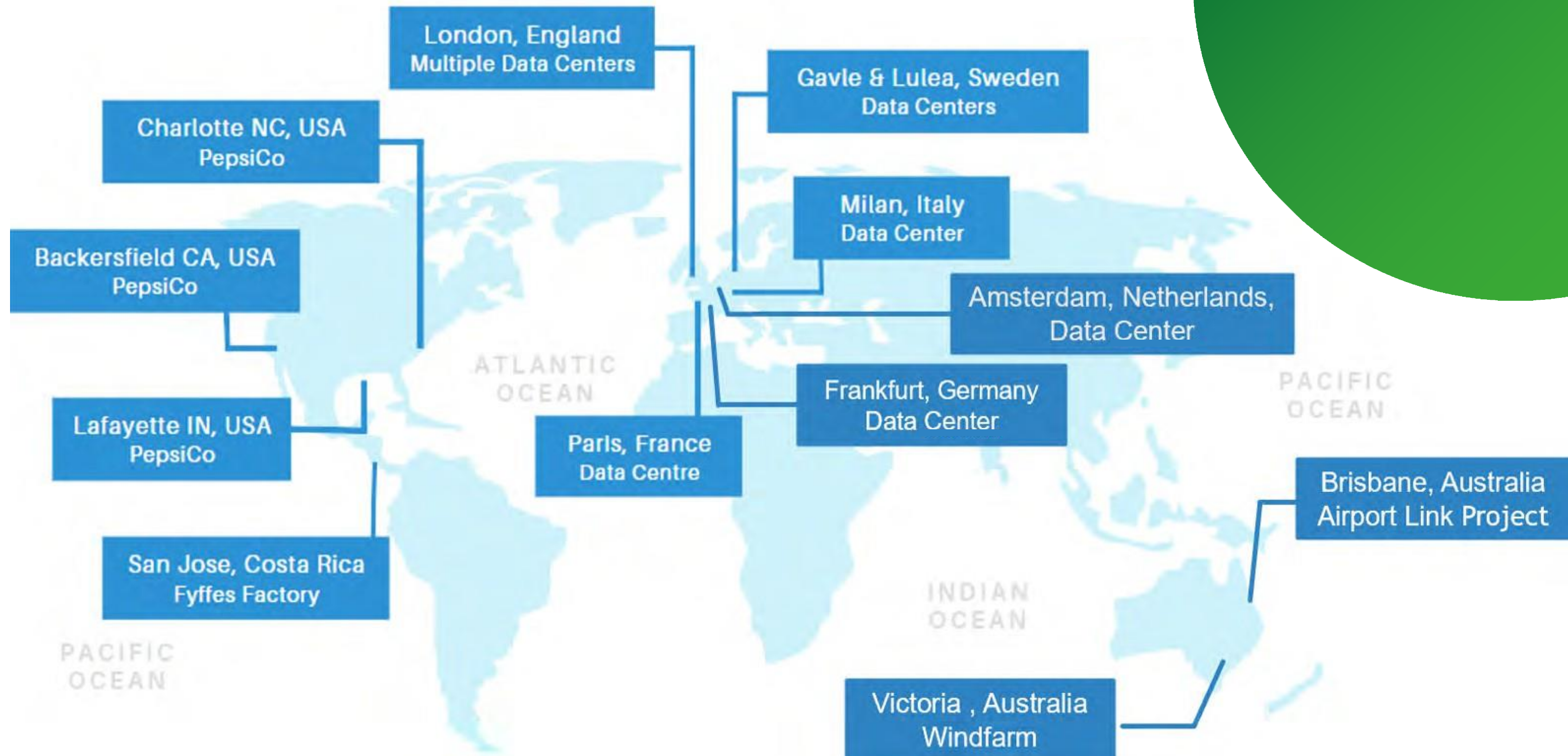


\*TCO : Total Cost of Ownership

# Ireland & UK Locations



# Global Locations



# Longmountain Hydrogen Project



Longmountain Wind Farm hydrogen project is a first of its kind in the UK and Ireland for green hydrogen production at large scale wind generation.

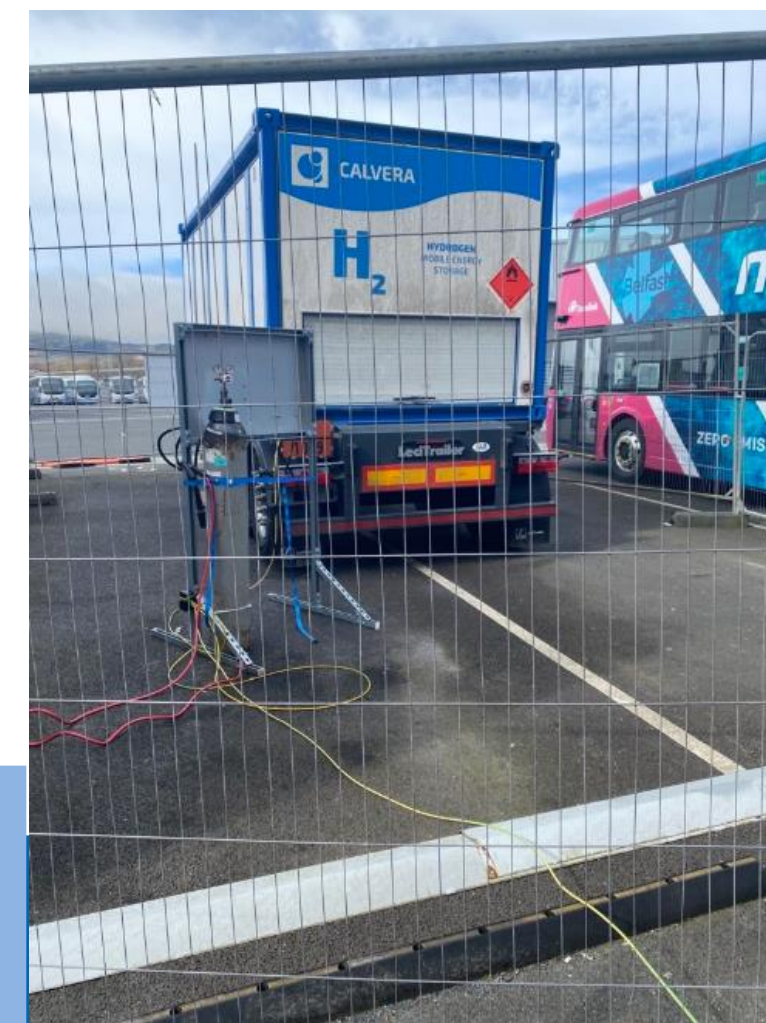
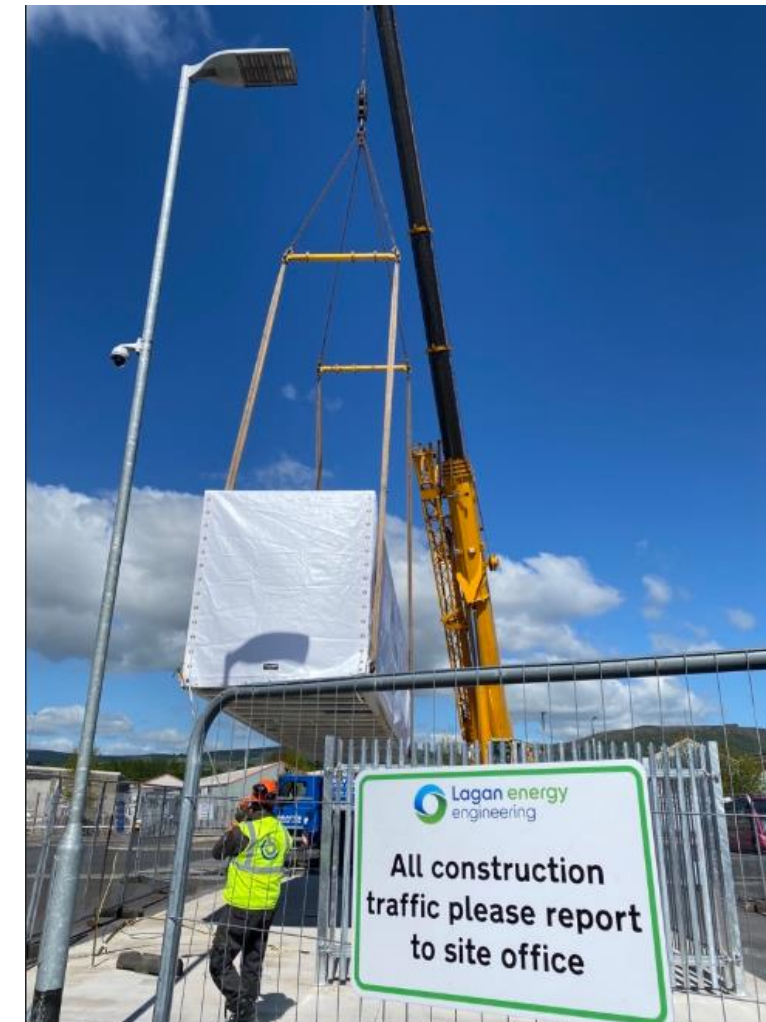
CLIENT	Energia Renewables
LOCATION	Northern Ireland
PERIOD	2019 – 2022
CAPACITY	1 MW electrolyser Design and Build
SERVICES PROVIDED	<b>Design and Build</b> <ul style="list-style-type: none"><li>• Principal Contractor for the design and build of the Civil and Electrical BOP including SCADA and GCC</li><li>• Ensure grid code compliance once final install complete.</li><li>• Assist client with compiling employers' requirements for tender.</li><li>• Participate in HAZZOP and HAZZID meetings to achieve full compliance for operational phase.</li><li>• Execution of all electrical studies to include, harmonics, load flow, short circuit,</li><li>• Maintain responsibility of CDM regulation on site.</li><li>• Fully comprehensive handover file.</li><li>• ATEX zone competent persons - Compex</li></ul>



# Translink/Energia Hydrogen Refueling station

Translink have acquired circa 25 Hydrogen Busses. Lagan Energy were contracted to Design and Build the installation.

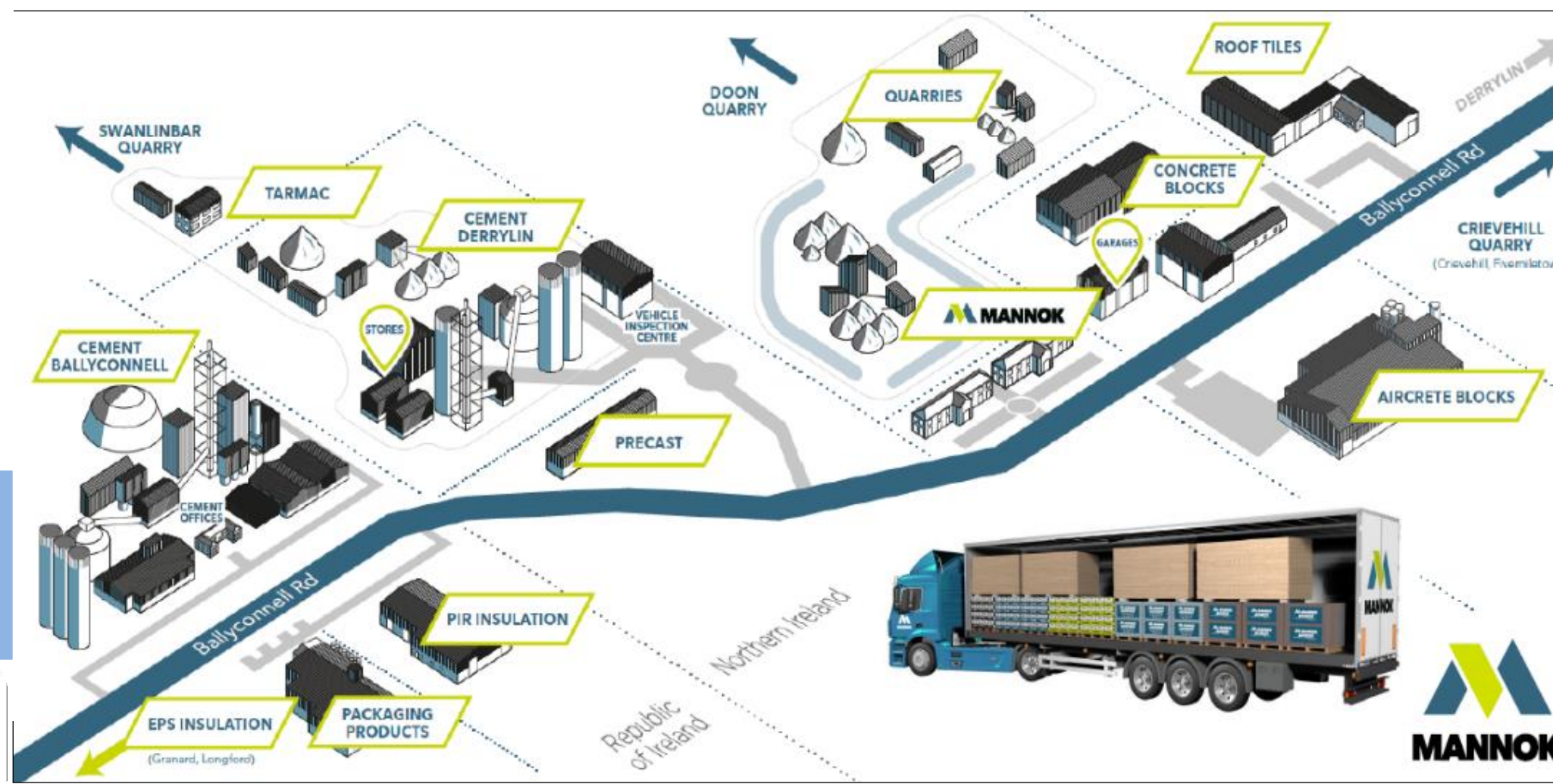
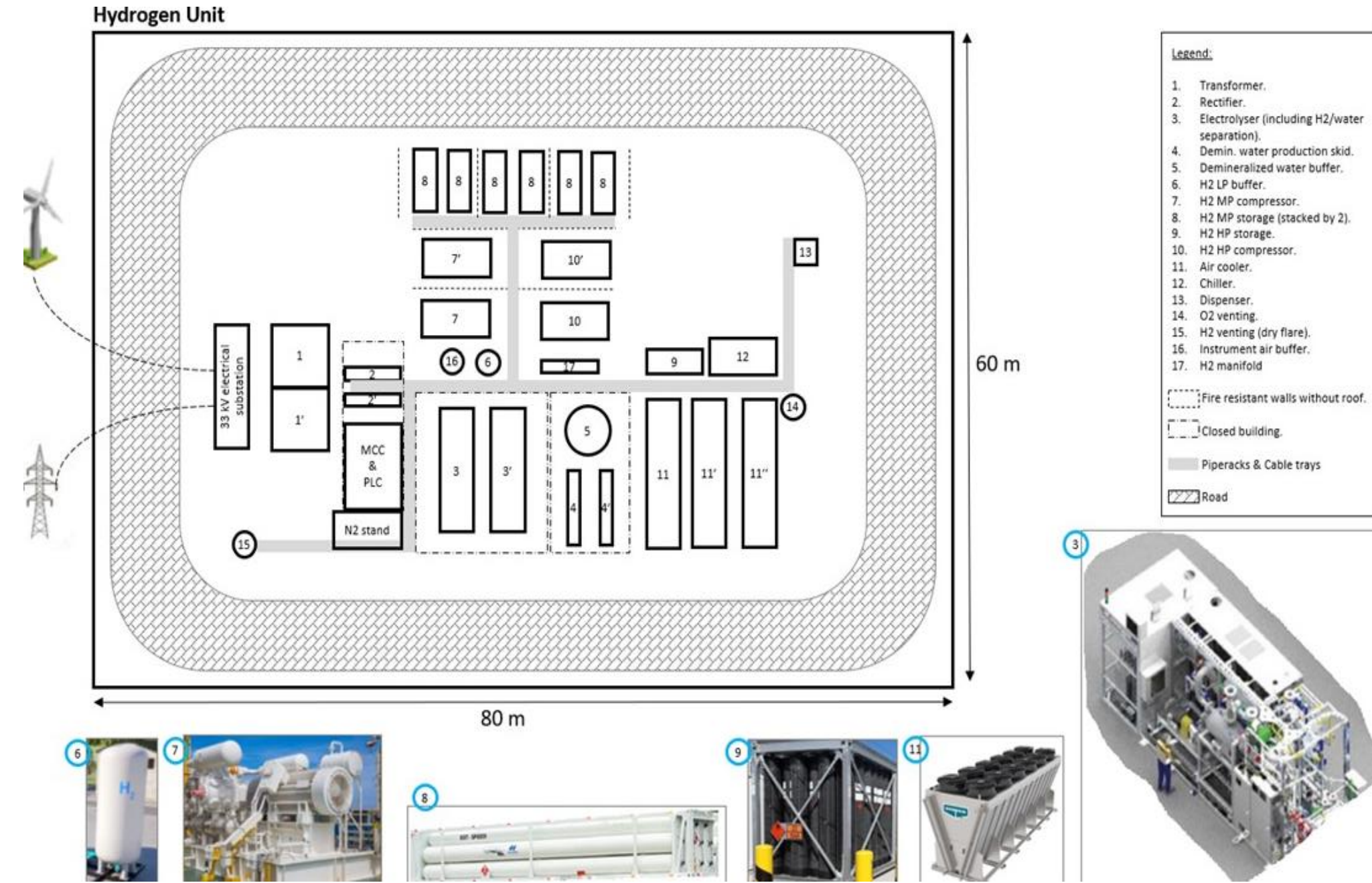
<b>CLIENT</b>	<b>Energia -Translink Milewater transport centre</b>
<b>LOCATION</b>	Northern Ireland
<b>PERIOD</b>	2019 – 2022
<b>CAPACITY</b>	Hydrogen Refueling Station Design and Build
<b>SERVICES PROVIDED</b>	<b>Design and Build</b> <ul style="list-style-type: none"><li>• Principal Contractor for the design and build of the Civil and Electrical BOP including SCADA</li><li>• Complete the Lightning Protection design.</li><li>• Assist client with compiling employers' requirements for tender.</li><li>• Participate in HAZZOP and HAZZID meetings to achieve full compliance for operational phase.</li><li>• Execution of all electrical studies to include, harmonics, load flow, short circuit,</li><li>• Maintain responsibility of CDM regulation on site.</li><li>• Fully comprehensive handover file.</li><li>• Provide Engineering</li></ul>





# Mannok Green Hydrogen Valley

Mannok intends to decarbonize its cement plants and quarry fleet with green H2 powered by electricity from existing wind farms



**CLIENT** Mannok Holdings  
**LOCATION** Ireland-UK borders  
**PERIOD** 2021 – 2022  
**CAPACITY** Between 5MW and 50MW

**SERVICES PROVIDED**

**Pre-Feasibility Study and FEED Study**

- Assess potential location of H2 system
- Review H2 and O2 use in the cement industry
- Explore connection before or after the meter to qualify H2 as green-H2
- Techno-economic analysis: mapping H2 demands vs wind production baseload & curtailment vs LCOH
- Techno-economic optimization of H2 production: electrolyser vs storage sizing vs LCOH
- Develop design basis
- Prepare conceptual design, layout, high-level description of key equipment, interface & tie-ins)
- Preliminary CAPEX & OPEX estimation

## Our offering to you

- Lender's approval – Why?
- Dedicated Hydrogen Specialists in house
- Global Geographical Reach
- Partnerships with Global Leaders
- **We've sustained the growing pains, so you don't have to.**



# Thank you



laganenergyeng.com

## Contacts



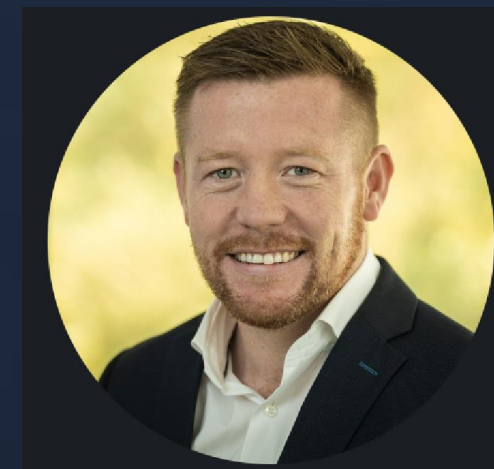
**Stephen Lagan**

Lagan Energy Engineering  
Operations Director

tel. + 44 28 82839770

mob. +44 7881105352

[Stephen.lagan@laganenergyeng.com](mailto:Stephen.lagan@laganenergyeng.com)



**Emmet Lagan**

Lagan Energy Engineering  
Technical Director

tel. + 44 28 82839770

mob. +44 7741251510

[emmet.lagan@laganenergyeng.com](mailto:emmet.lagan@laganenergyeng.com)